



79
Au
Gold

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196.967

DEVELOPING THE WORLD CLASS HIGH-GRADE WINDFALL DEPOSIT IN QUÉBEC

September 2022



Cautionary Statements



CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This presentation (the "Presentation") of Osisko Mining Inc. ("Osisko" or the "Corporation") contains "forward-looking information" within the meaning of the applicable Canadian securities legislation that is based on expectations, estimates, projections and interpretations as at the date of this Presentation. Any statement that involves predictions, expectations, interpretations, beliefs, plans, projections, objectives, assumptions, future events or performance (often, but not always, using phrases such as "expects", or "does not expect", "is expected", "interpreted", "management's view", "anticipates" or "does not anticipate", "plans", "budget", "scheduled", "forecasts", "estimates", "potential", "feasibility", "believes" or "intends" or variations of such words and phrases or stating that certain actions, events or results "may" or "could", "would", "might" or "will" be taken to occur or be achieved) are not statements of historical fact and may be forward-looking information and are intended to identify forward-looking information.

In this Presentation, forward-looking information pertaining to, among other things: the goals for 2022 (including timing, if at all) relating to a power line agreement, Triple Lynx bulk sample, feasibility study and expansion of Golden Bear Property; estimates and assumptions underlying 2022 MRE (as defined herein); projected production; sensitivity analysis and cut-off grades; life of mine estimates; after-tax free cash flows; capex estimates; tpd milling operations at the Windfall mill; processing estimates; average recovery; projected gross revenue and taxes; job creation estimates; the profitability of Windfall; future drilling results; Osisko's ability to convert additional inferred resource ounces into measured and indicated categories; timing for production (if at all); mining and processing infrastructure; environmental assessment and closure plans matters; stakeholder engagement and relationships; the significance of exploration results disclosed in this Presentation; the viability of ramp-access to the underground deposit; the advancement of the ramp; Osisko's ability to convert additional high-grade mineral resources and other analysis relating to resource progression; the timing and ability of Osisko to publish a feasibility study on Windfall, including in Q4 2022 (or at all); the key assumptions, parameters and methods used to estimate the mineral resource estimate in the 2022 MRE; the Windfall gold deposit being one of the highest-grade resource-stage gold projects in world and having world-class scale; the prospects, if any, of the Windfall gold deposit; the timing and ability of Osisko, if at all, to publish the feasibility study; the amount and type of drilling to be completed and the timing to complete such drilling; the focus of the remaining infill drilling; the trend of grade increase; the Lynx zone remaining open to expansion to the East and down plunge; upgrading a inferred mineral resource to a measured mineral resource or indicated mineral resource category; future drilling at the Windfall gold deposit; the significance of historic exploration activities and results.

Such factors include, among others, risks relating to the ability of exploration activities (including drill results) to accurately predict mineralization; errors in management's geological modelling; the ability of Osisko to complete further exploration activities, including (infill) drilling; property and royalty interests in the Windfall gold deposit; key assumptions, parameters or methods used in the 2022 MRE becoming untrue or unachievable; the ability of the Corporation to obtain required approvals; the results of exploration activities; title deficiencies; risks relating to mining activities; the global economic climate; metal prices; dilution; environmental risks; and community and non-governmental actions.

Risks and uncertainties about Osisko's business are more fully discussed in the disclosure materials filed with the securities regulatory authorities in Canada, which are available on SEDAR (www.sedar.com) under Osisko's issuer profile. Readers are urged to read these materials and should not place undue reliance on any forward-looking statement and information contained in this Presentation.

Although the forward-looking statements contained in this Presentation is based upon what management believes, or believed at the time, to be reasonable assumptions, Osisko cannot assure shareholders and prospective purchasers of securities of the Corporation that actual results will be consistent with such forward-looking statements, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither Osisko nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking statements. Osisko does not undertake, and assumes no obligation, to update or revise any such forward-looking statements contained herein to reflect new events or circumstances, except as may be required by law.

Unless otherwise noted, this Presentation has been prepared based on information available as of August 30, 2022.



Cautionary Statements



TECHNICAL REPORTS

Mineral Resource Estimate

This Presentation contains information regarding the mineral resource estimate for Osisko's 100% owned Windfall lake gold deposit, located in the Abitibi greenstone belt, Urban Township, Eeyou Istchee James Bay, Québec, as disclosed in the news release of Osisko dated August 30, 2022 (entitled "Osisko Delivers Updated Windfall Mineral Resource Estimate For Pending YE2022 Feasibility Study"), a copy of which is available on SEDAR (www.sedar.com) under Osisko's issuer profile.

The key assumptions, parameters and methods used in the mineral resource estimate disclosed in this Presentation, certain of which are described in this Presentation and in the August 30, 2022, news release, will be fully described in an accompanying technical report in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and will be available on SEDAR (www.sedar.com) under Osisko's issuer profile within 45 days.

CAUTIONARY STATEMENT REGARDING MINERAL RESOURCE ESTIMATES

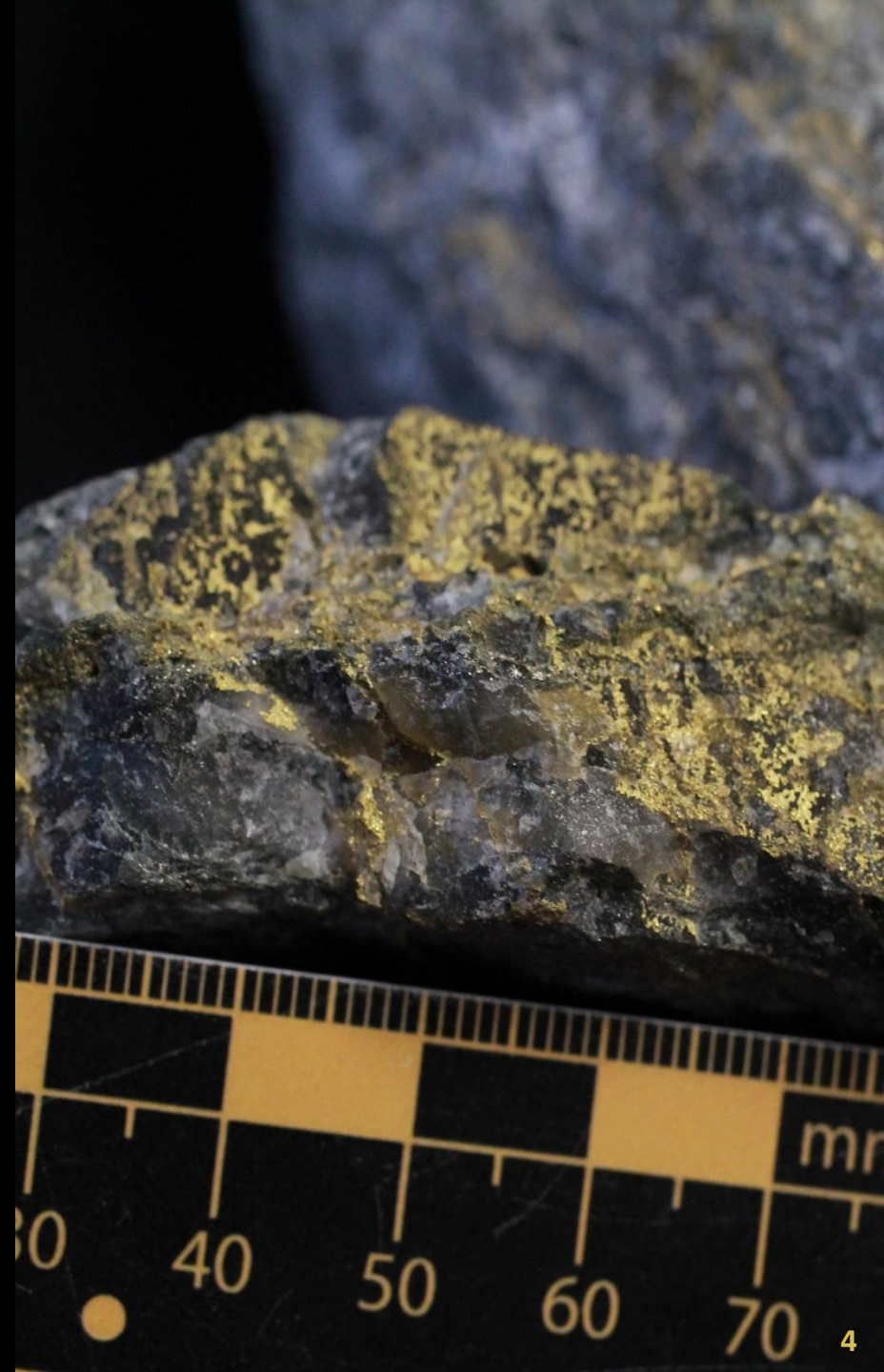
This Presentation uses the terms measured, indicated and inferred mineral resources as a relative measure of the level of confidence in the resource estimate. Readers are cautioned that mineral resources are not mineral reserves and that the economic viability of resources that are not mineral reserves has not been demonstrated. The mineral resource estimate disclosed in this Presentation may be materially affected by geology, environmental, permitting, legal, title, socio-political, marketing or other relevant issues. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to an indicated or measured mineral resource category, however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. The mineral resource estimate is classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum's "*CIM Definition Standards on Mineral Resources and Mineral Reserves*" incorporated by reference into NI 43-101. Under NI 43-101, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies or economic studies except for preliminary economic assessments. Readers are cautioned not to assume that further work on the stated resources will lead to mineral reserves that can be mined economically.

QUALIFIED PERSON

The scientific and technical content in Presentation has been reviewed and approved by Mr. Mathieu Savard, P.Geo (OGQ #510), President of Osisko, who is a "qualified person" within the meaning of NI 43-101.

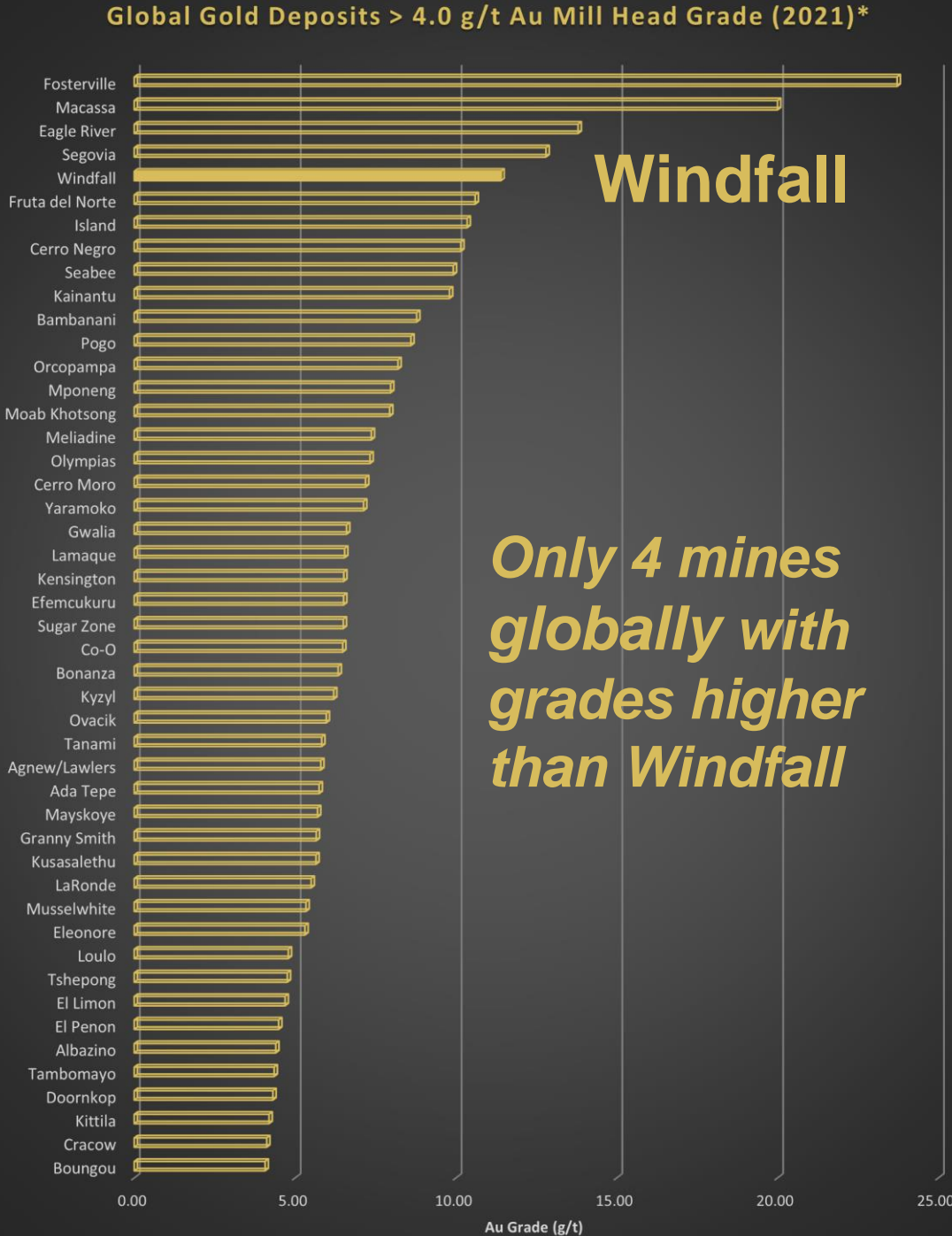
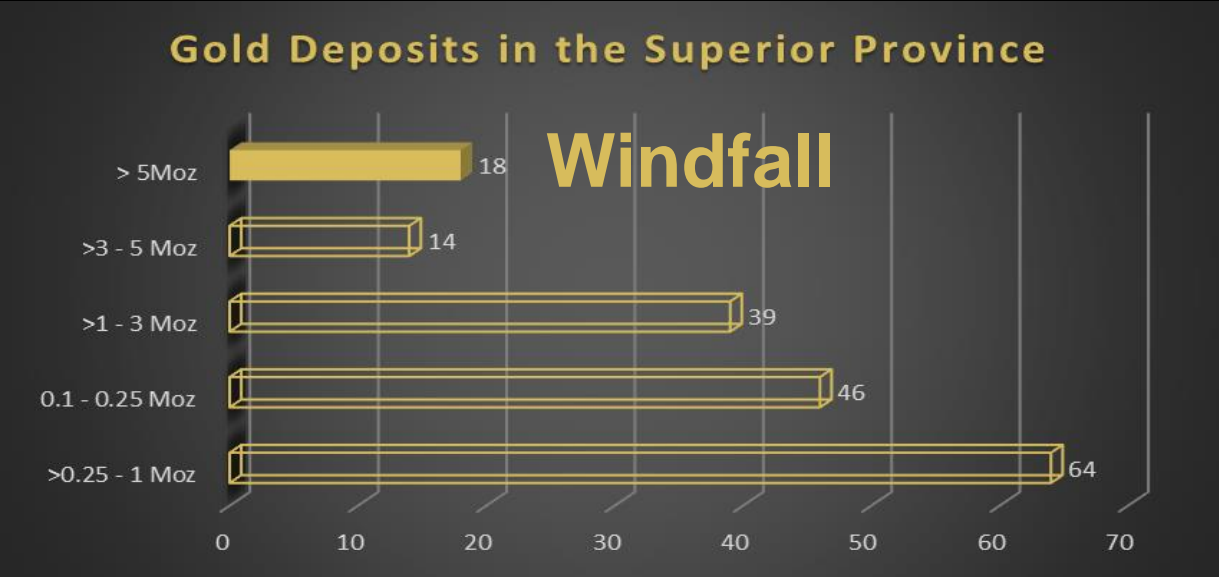
TIER ONE POTENTIAL

- M&I: 4.1 M ounces Au @ 11.4 g/t , and
- Inferred: 3.3 M ounces Au @ 8.4 g/t (2022 MRE)
- Targeting significant near-term production
- Management with proven Tier One experience: World Class Canadian Malartic Mine (discovery, delineation, permitting, financing, build and production)
- 2022 Catalysts
 - Updated MRE
 - Triple Lynx bulk sample results
 - FS Q4/22
 - On-going underground exploration
 - On-going regional exploration



WORLD CLASS SCALE & WORLD CLASS GRADE

- ❖ **GRADE:** M&I grade of 11.4 g/t Au – Top 5 global*
- ❖ **OUNCES:** only 10% of deposits ever discovered in the Superior Province (Timmins to Val D’Or) were >5 Moz⁺

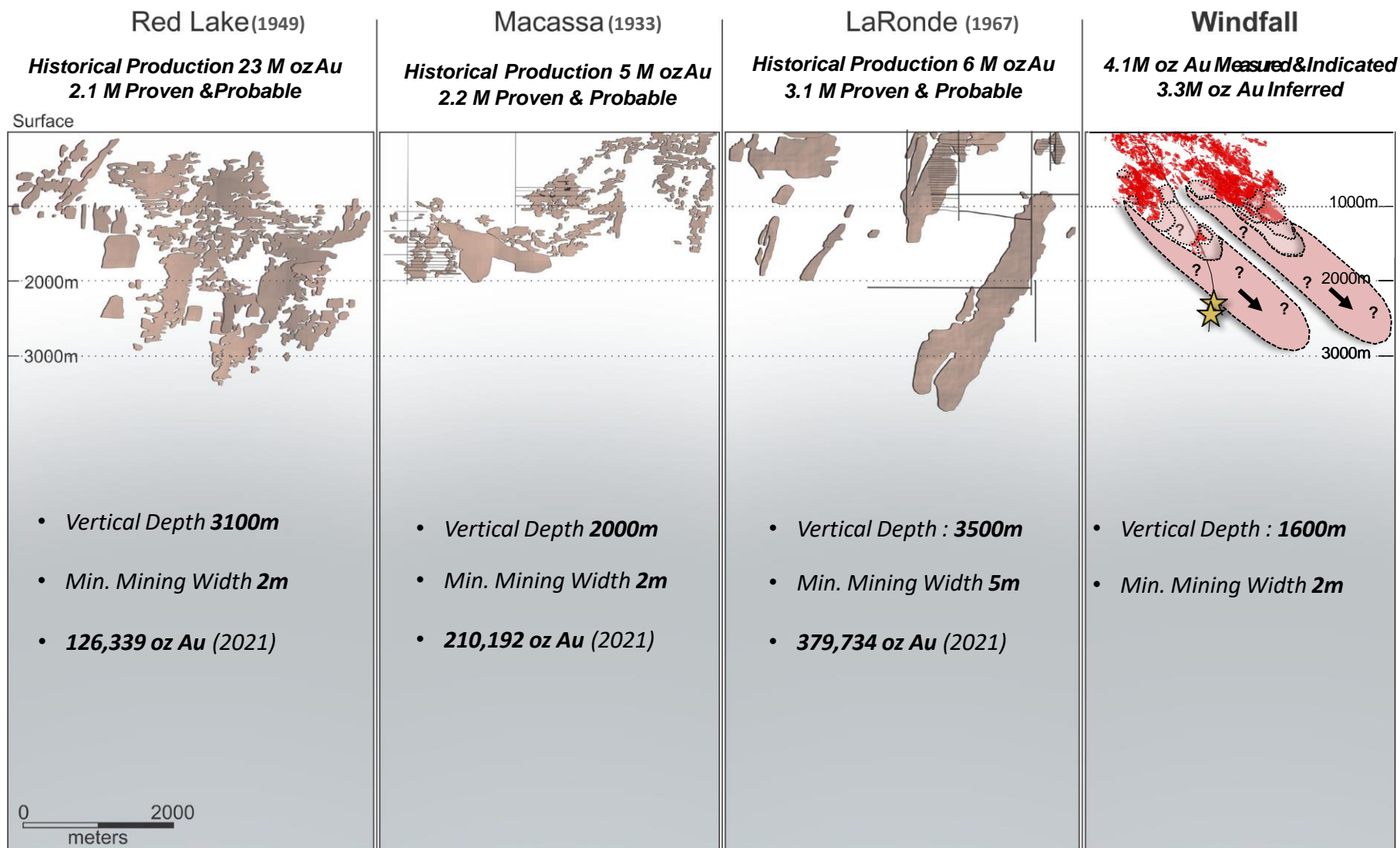


Source: *2021 S&P Global Data, 2021 head grade , + Mercier-Langevin et al. (2020)

Fictional representation of where Windfall would plot with a 11.4 g/t Au undiluted grade



Major High-Grade Canadian Archean Gold Deposits



MRE Cut-off Grade Sensitivity Table

Cut-off (g/t Au)	Measured + Indicated					Inferred				
	Tonnes ¹ (000 t)	Gold (g/t)	Ag (g/t)	Ounces Au ¹ (000 oz)	Ounces Ag ¹ (000 oz)	Tonnes ¹ (000 t)	Gold (g/t)	Ag (g/t)	Ounces Au ¹ (000 oz)	Ounces Ag ¹ (000 oz)
5.0	8,213	13.9	7.0	3,667	1,854	7,986	10.7	6.0	2,760	1,545
4.5	9,029	13.1	6.7	3,791	1,935	9,078	10.0	5.6	2,927	1,638
4.0	9,950	12.2	6.3	3,917	2,020	10,561	9.2	5.2	3,129	1,754
3.5	11,061	11.4	5.9	4,050	2,114	12,287	8.4	4.8	3,337	1,892
3.0	12,388	10.5	5.6	4,188	2,217	14,299	7.7	4.4	3,547	2,033
2.5	18,526	9.8	4.8	5,848	2,849	20,397	7.0	3.8	4,583	2,496

Mineral Resource Estimate 2022 (3.5 g/t Au cut-off)

Area	Measured					Indicated					Inferred				
	Tonnes ¹ (000 t)	Gold (g/t)	Ag (g/t)	Gold ¹ (000 oz)	Ag ¹ (000 oz)	Tonnes ¹ (000 t)	Gold (g/t)	Ag (g/t)	Gold ¹ (000 oz)	Ag ¹ (000 oz)	Tonnes ¹ (000 t)	Gold (g/t)	Ag (g/t)	Gold ¹ (000 oz)	Ag ¹ (000 oz)
Lynx ²	671	11.4	7.2	247	154	6,638	13.2	6.7	2,814	1,426	4,774	10.8	6.9	1,663	1,063
Underdog	-	-	-	-	-	928	9.5	3.4	284	101	4,072	7.7	3.0	1,011	397
Main ³	109	9.4	4.4	33	16	2,685	7.6	4.8	655	412	2,799	5.8	3.3	518	296
Triple 8	-	-	-	-	-	-	-	-	-	-	642	7.0	6.6	145	136
Total (in situ)	780	11.1	6.8	279	170	10,250	11.4	5.9	3,754	1,939	12,287	8.4	4.8	3,337	1,892
Stockpiles ⁴	32	16.9	4.3	17	4	-	-	-	-	-	-	-	-	-	-
Total	811	11.4	6.7	297	174	10,250	11.4	5.9	3,754	1,939	12,287	8.4	4.8	3,337	1,892


Notes: ¹Values are rounded to nearest thousand which may cause apparent discrepancies. ²Lynx area includes: Lynx Main, Lynx HW, Lynx SW, Lynx 4 and Triple Lynx.


³Main area includes: Zone 27, Caribou 1&2, Caribou Extension, Bobcat, Mallard, Windfall Nord, and F-Zones. ⁴Cut-off grade is not applicable to the stockpiles.


See 2022 MRE, a copy of which will be available on SEDAR (www.sedar.com) under Osisko's issuer profile within 45 days.


Windfall MRE and Upside Potential


Mineral Resource Estimate
Effective date June 7, 2022
Cut-off grade : 3.5g/t Au

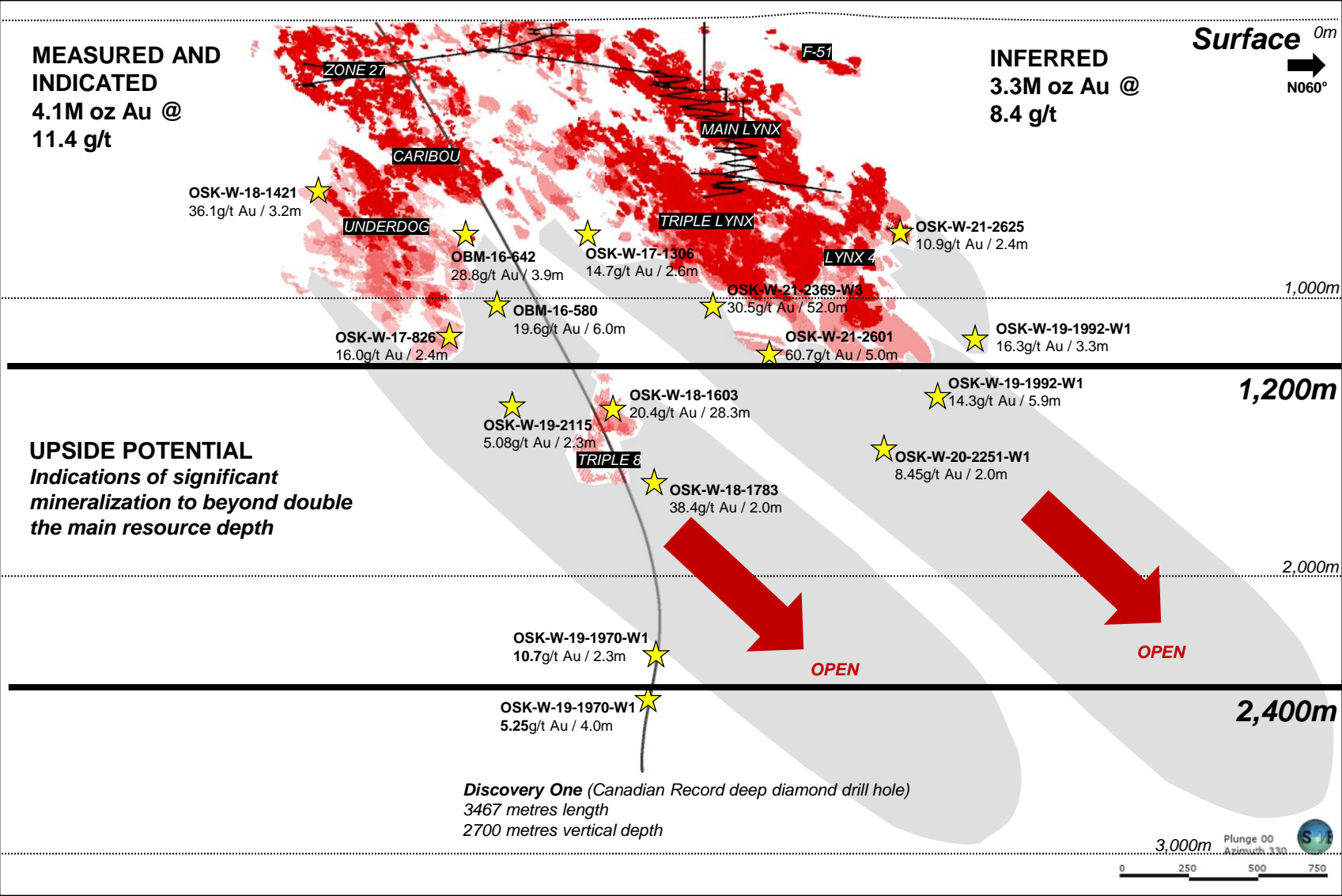
 **Measured & Indicated**

 **Inferred**

 **Significant Intersect with Open Upside**
(previously disclosed and available under the issuer's SEDAR profile)

 **Potential**

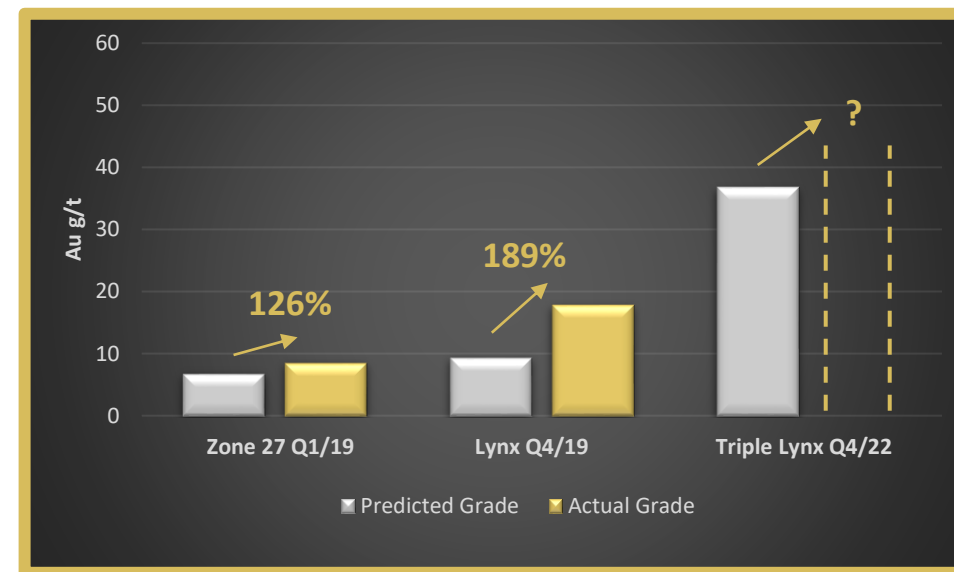
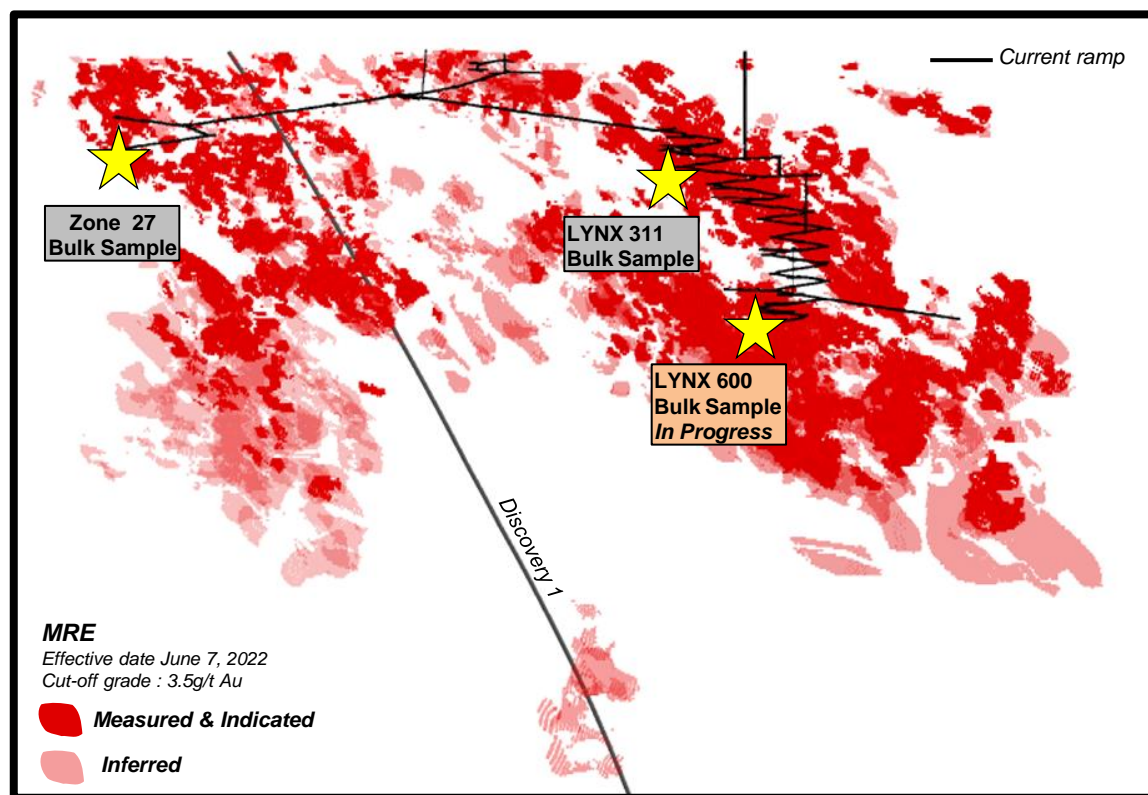
 **Current Ramp**



Infinite Longitudinal View

Underground Exploration – Bulk Samples

- Two previous bulk samples reconciled positively*
- Third bulk sample expected in Q4/2022



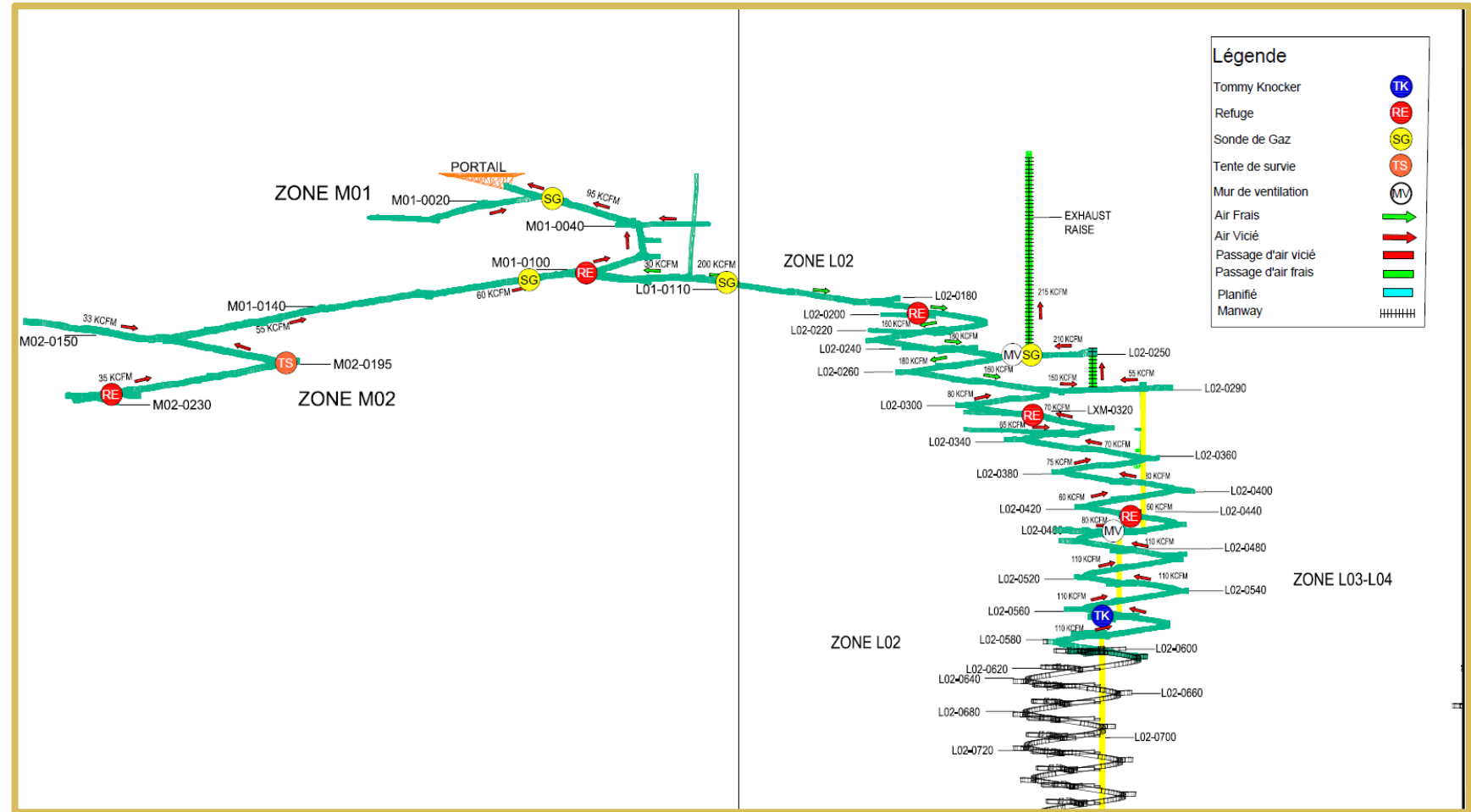
Area		Predicted	Actual	Reconciliation
Zone 27 Q1/19	Tonnage (t)	5,512	5,500	100%
	Au g/t	6.8	8.5	126%
	Au oz	1,198	1,508	126%
Lynx Q4/19	Tonnage (t)	5,717	5,716	100%
	Au g/t	9.4	17.8	189%
	Au oz	1,736	3,271	189%
Triple Lynx Q4/22	Tonnage (t)	4,977		
	Au g/t	36.7		
	Au oz	5,872		

*see Osisko news releases dated June 11, 2019, and December 11, 2019

□ Exploration Ramp in Place

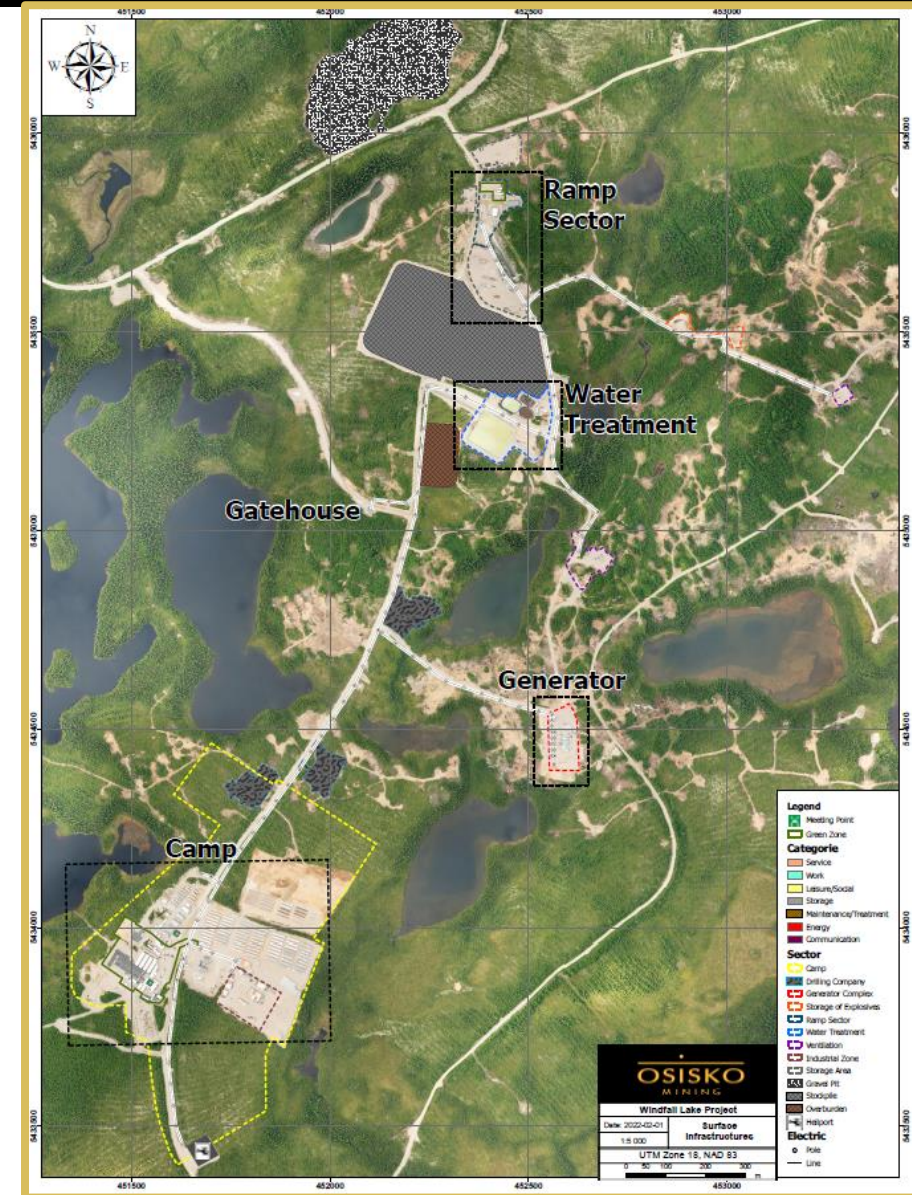
Underground work completed to date:

- 12.5 km of exploration ramp access
- 635 metres vertical depth
- 6 refuge stations
- 12 electrical substations
- 3 pumping stations
- 15 sumps
- 1 powder & cap magazine
- Fiber optic communication to level 0580
- Ramp services
 - 11.2 km of ventilation (including exhaust fan and heating system at surface)
 - 10.0 km of water
 - 7.9 km compressed air
- 2 wash bays
- 2 Storage bays
- 5 ventilation raises
- 40 drill bays
- 1 test stope

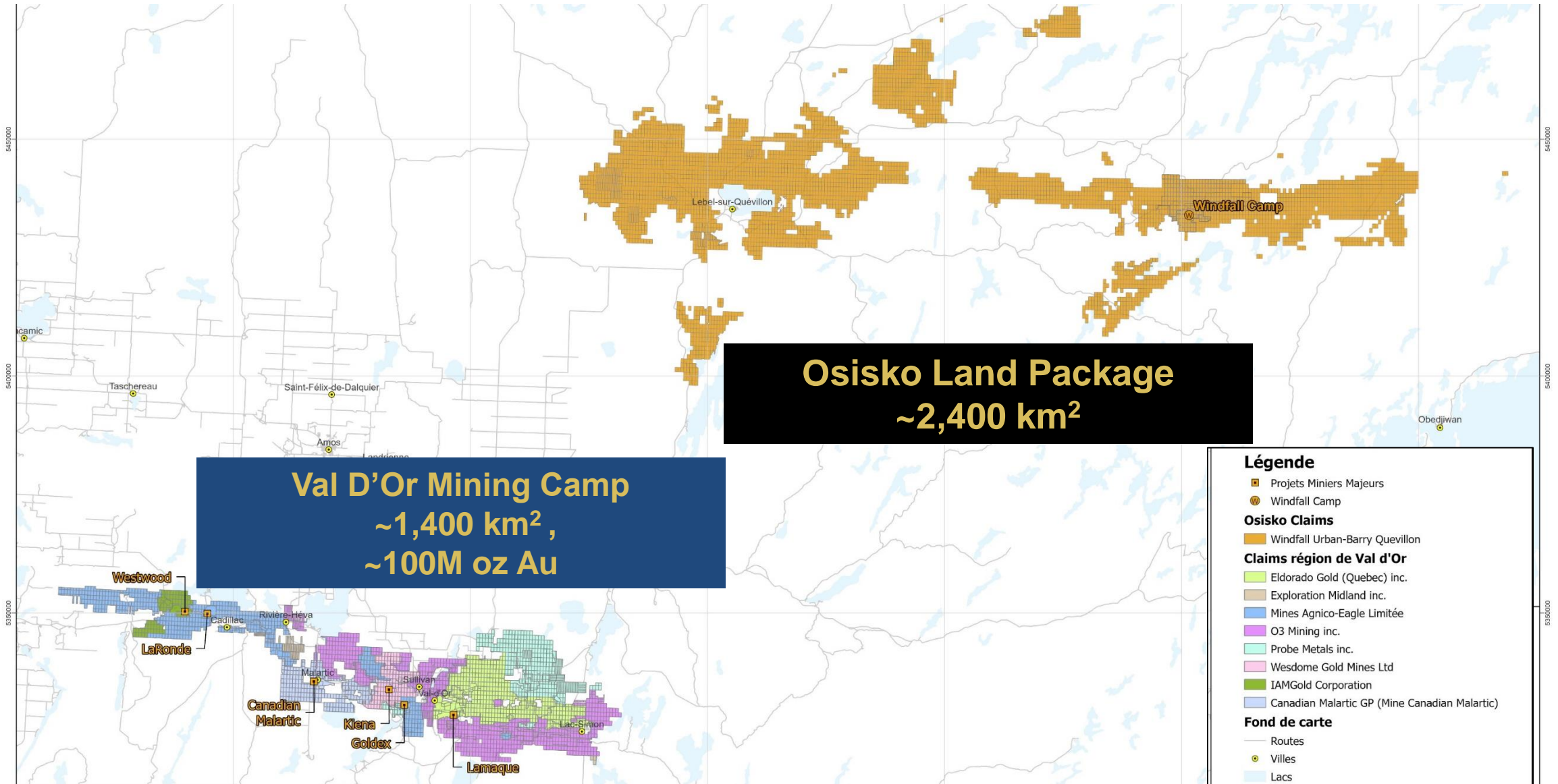


Existing Civil Works

- Accommodation complex
- Nursing station
- COVID 19 laboratory
- Helicopter pad
- Gate house & security
- 3 drinking water wells
- 6 septic fields
- 4 administrative offices, 100 workstations
- Communication tower
- Fiber optic communication
- Weather station
- 5 Core shacks
- 111 racks of core
- Kitchen, composter, compactor
- Recreation areas (gym, hockey, volleyball)
- 3 heated storage domes & 2 storage pads
- 4 parking areas
- 84,068 m² lined waste pad
- 100 m³/h lined water treatment
- Progressive rehabilitation of drill pads

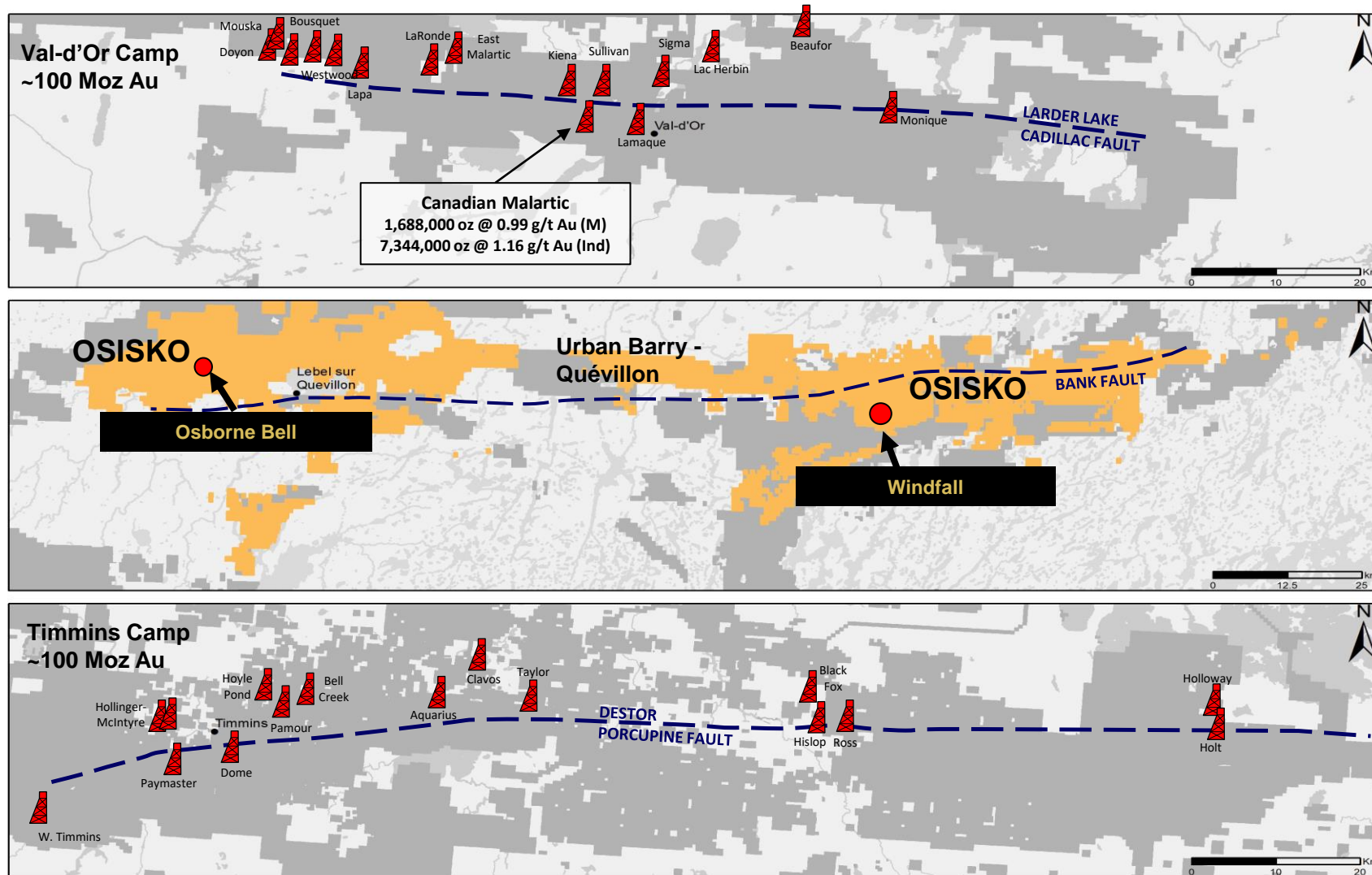


Osisko Claim Package – Mining Camp Scale



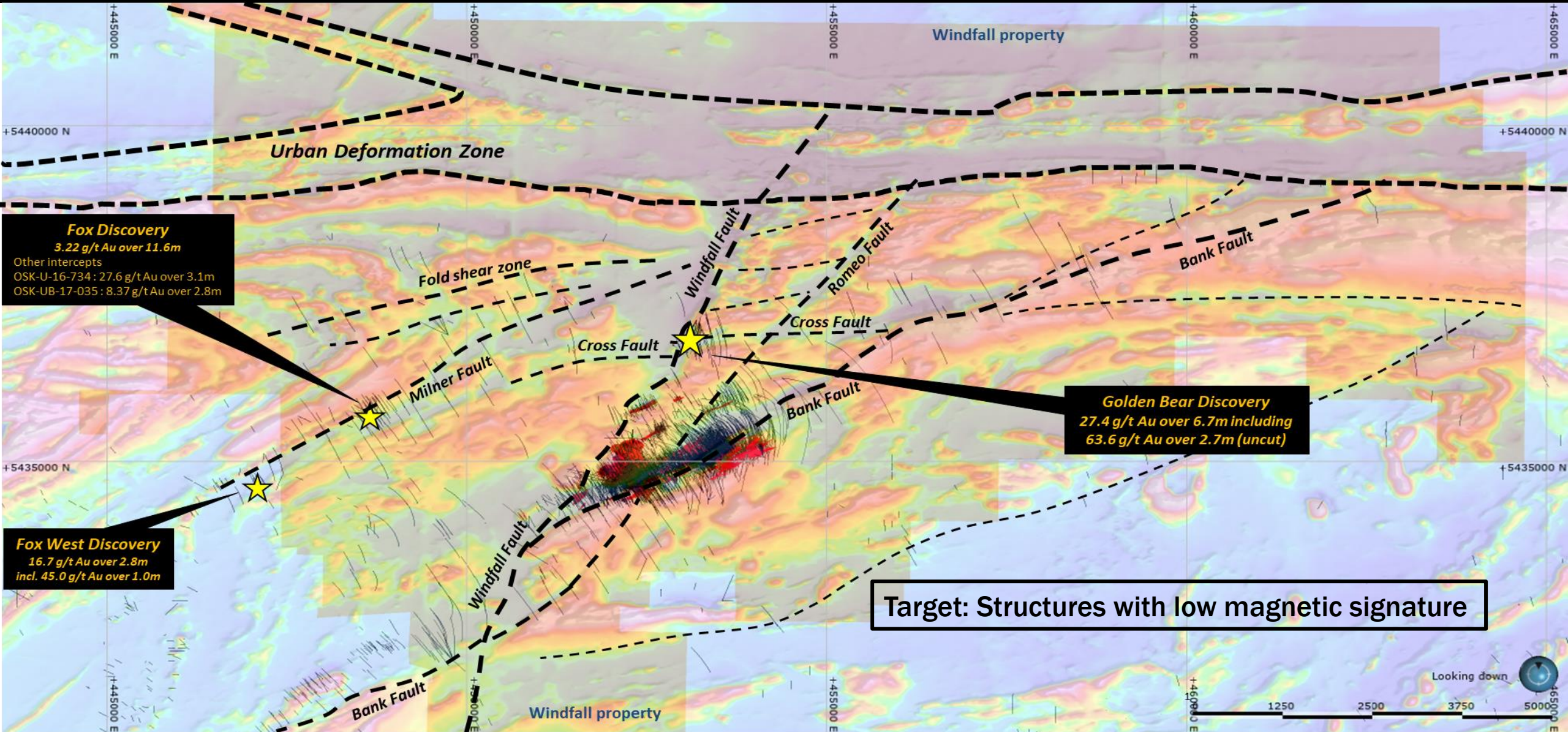
Emerging Mining District

Urban Barry –
Quévillon is a
greenstone
belt in the
Abitibi bisected
by major
structure –
same setting
as Val D’Or and
Timmins
camps





Windfall Area Discovery Potential



ENVIRONMENT - SOCIAL - GOVERNANCE

Environment

- Evaluate effects of our work and **minimize risk** to the environment through **active management**
- Ensure the conservation of natural resources and reasonable use of consumable goods

Social

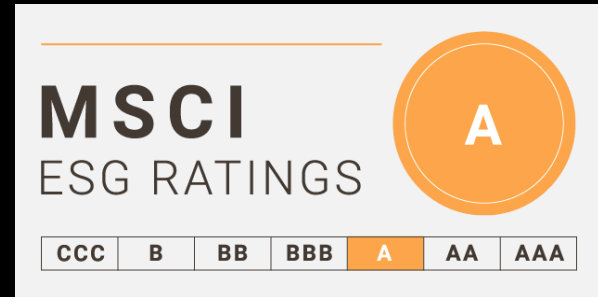
- Promote a safe, healthy, respectful, diverse and inclusive workplace
- Establish and maintain respectful relationships with host communities and contribute to their socio-economic development through local hiring, responsible procurement and sponsorships (>100 First Nations employees)

Governance

- 6 of 8 members of the Board of Directors are independent
- Board gender diversity: 37.5% women

ESG Highlights

- >5 years of sustainability reporting
- 35.2 Sustainalytics rating (43 out of 122 in Precious Metals) – Similar to Barrick, Northern Star & Wesdome
- MSCI ESG Rating of “A”*



Summary



- ◆ Largest high-grade gold deposit (>1 Moz Au) ever discovered in Québec
- ◆ World-class in scale & grade, Windfall continues to grow
 - ◆ 4.1 M ounces Au M&I @ 11.4 g/t
 - ◆ 3.3 M ounces Au Inferred @ 8.4 g/t
 - ◆ Resource depth: from surface to 1200m
 - ◆ Bulk samples 126% - 189% positive reconciliation
- ◆ Rapid project advancement
- ◆ Regional potential to be the next major Abitibi mining camp
- ◆ Top ranked ESG

Appendix

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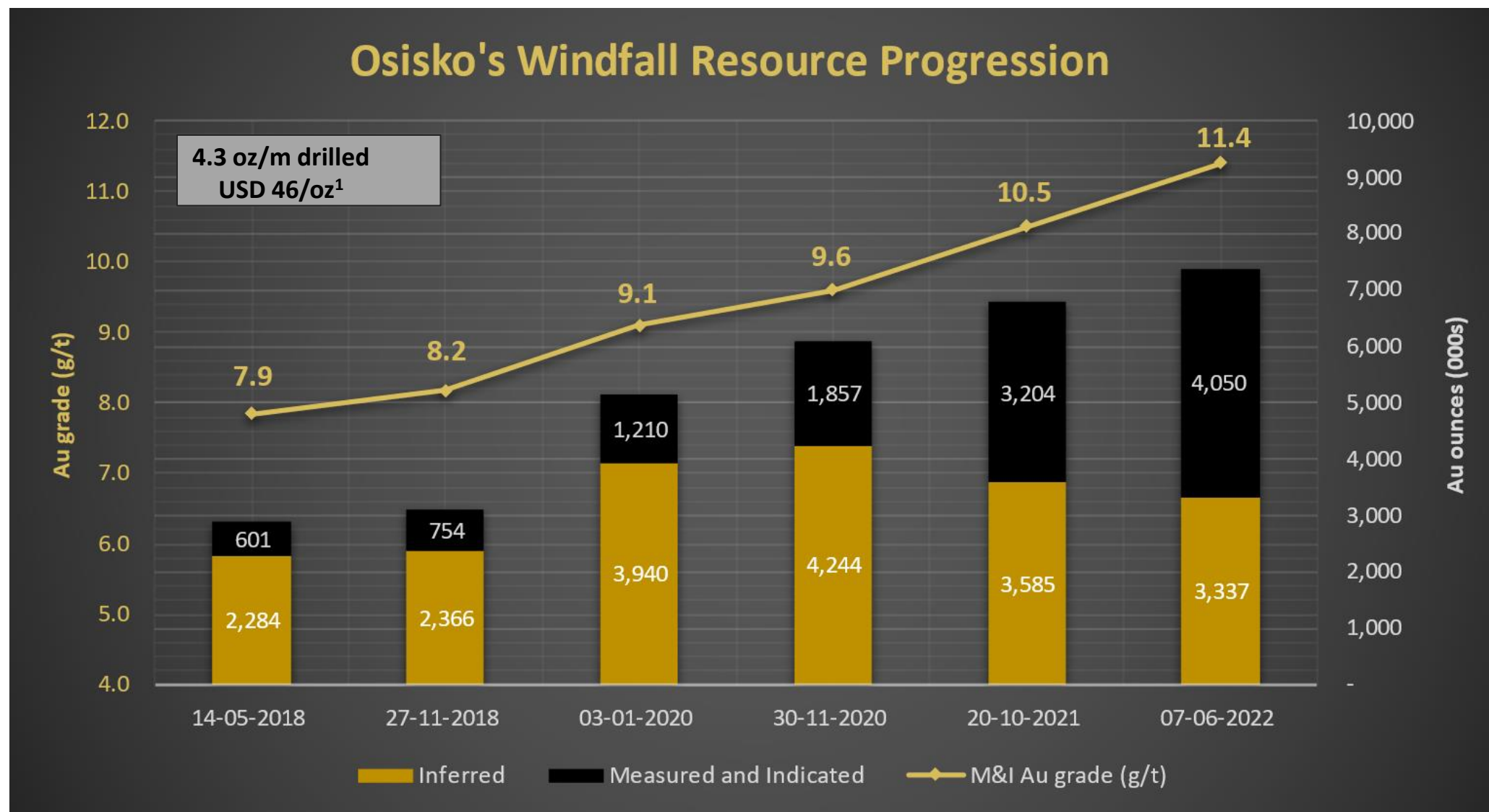
Au

Gold

196.967



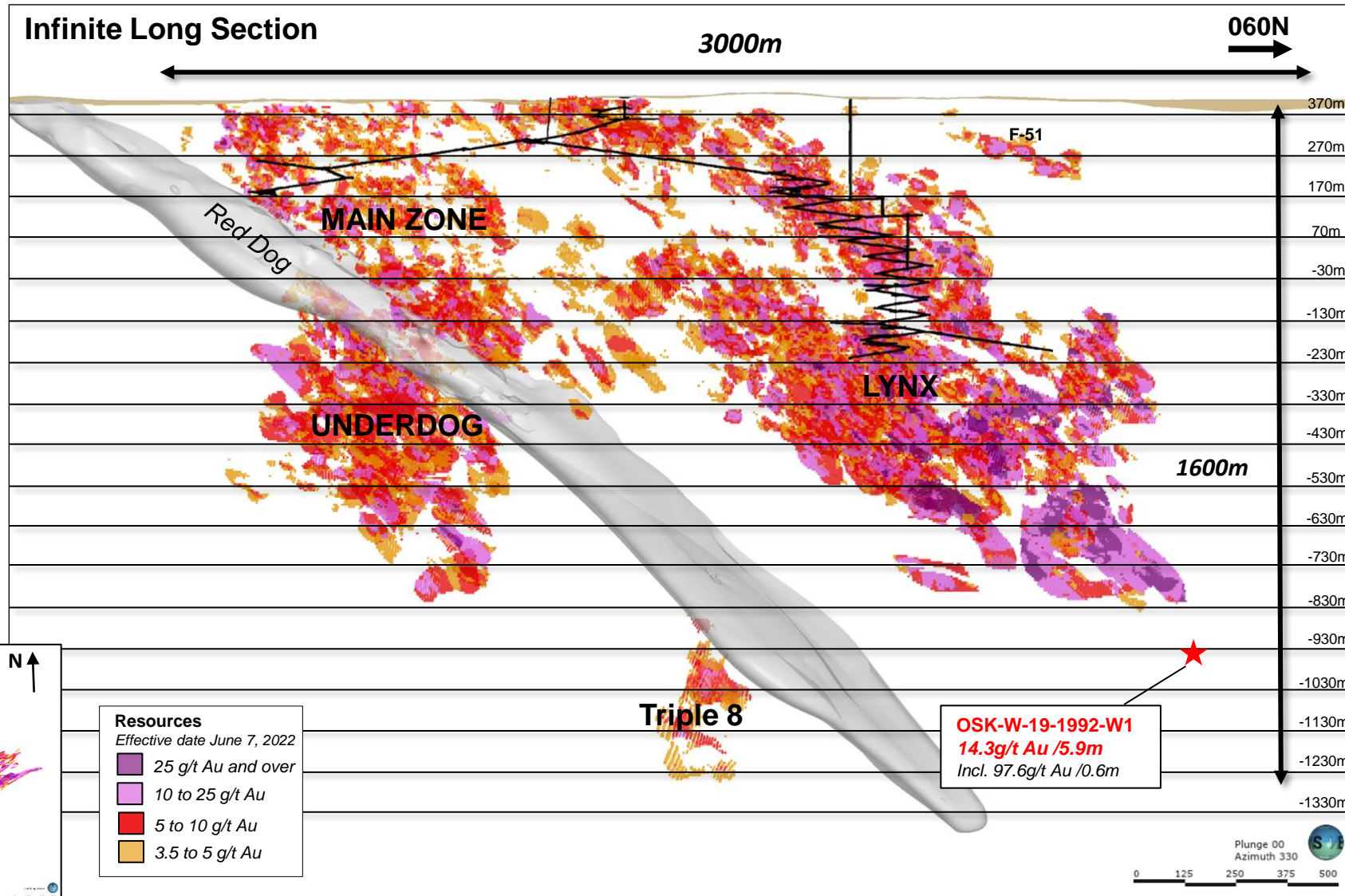
Resource Growth: Adding Significant Ounces



This graphic demonstrates the progression of the mineral resource at Windfall as at the effective dates of such mineral resource estimates shown on the x-axis of the graphic. Any mineral resource estimate other than the current 2022 MRE is (i) historic in nature, and (ii) being presented for illustrative purposes only and should not be relied upon.

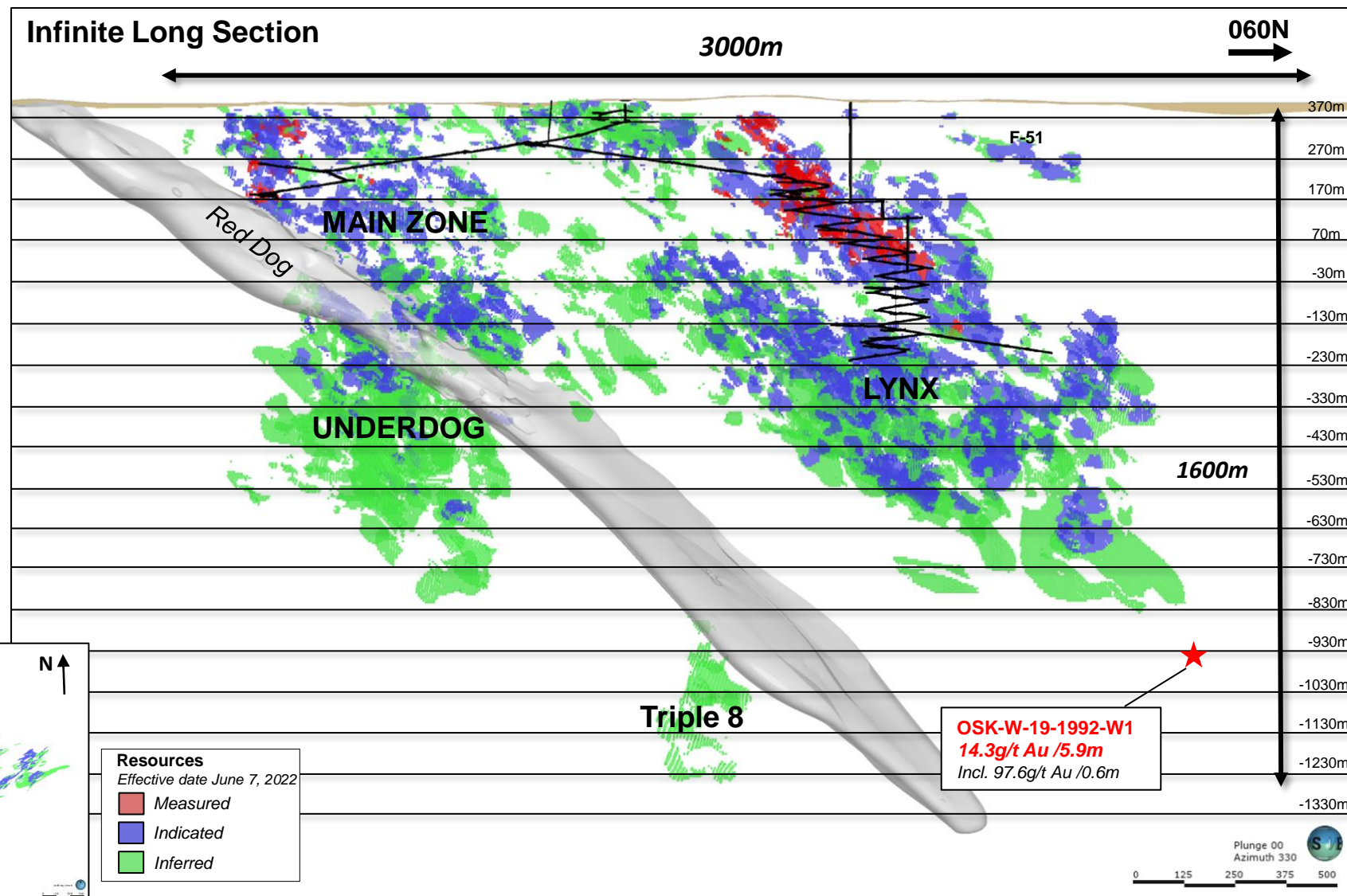
¹Non-audited estimation using actual exploration expenditures as of December 31st, 2021 (excluding exploration ramp expenditures), the amount of meters drilled by Osisko since 2015 and considering Quebec Tax Exploration Credit returns divided by global ounces. This is considered a non-GAAP number.

Windfall Grade Isopachs: Higher Grade Down Plunge





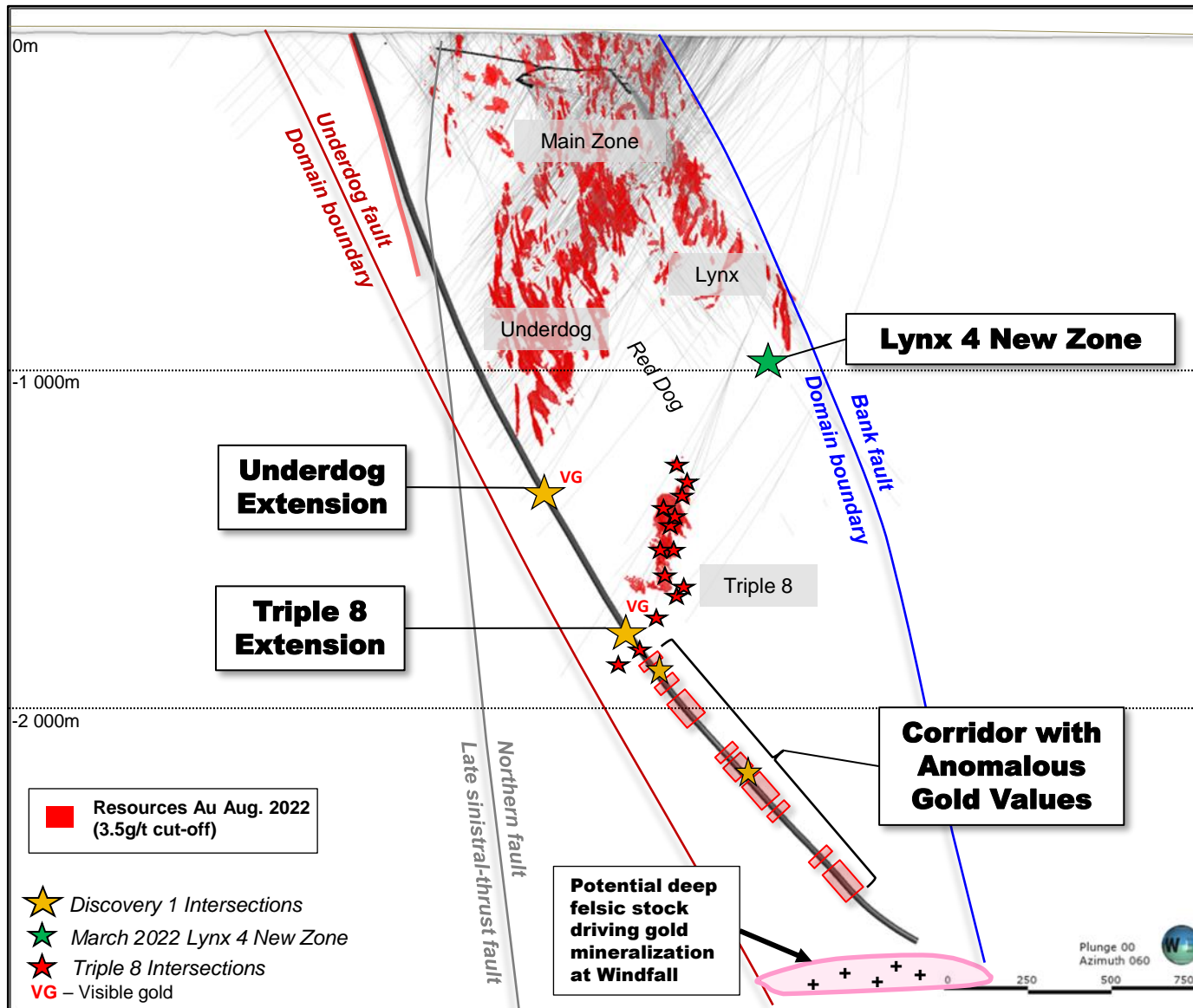
Measured and Indicated Drilling Completed As Of June 2022





DISCOVERY 1: STRONG INDICATIONS OF MORE

Section 3100 E 700m thickness



Notes on the Windfall Gold Deposit Mineral Resource Estimation



1. The independent qualified person for the 2022 MRE, as defined by NI 43-101 guidelines, is Pierre-Luc Richard, P. Geo. (OGQ#1119), of PLR Resources Inc. The effective date of the estimate is June 07, 2022.
2. The Windfall mineral resource estimate follows the November 29, 2019, CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines.
3. These mineral resources are not mineral reserves as they have not demonstrated economic viability. The quantity and grade of reported Inferred mineral resources in this news release are uncertain in nature and there has been insufficient exploration to define these resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration. Resources are presented undiluted and in situ and are considered to have reasonable prospects for economic extraction. Isolated and discontinuous blocks above the stated cut-off grade are excluded from the mineral resource estimate. Must-take material, i.e., isolated blocks below cut-off grade located within a potentially mineable volume, was included in the mineral resource estimate.
4. As of June 07, 2022, the database comprises a total of 4,834 drill holes for 1,852,861 m of drilling in the area extent of the mineral resource estimate, of which 4,152 drill holes (1,665,282 m) were completed and assayed by Osisko. The drill hole grid spacing is approximately 12.5 m x 12.5 m for definition drilling, 25 m x 25 m for infill drilling and larger for extension drilling.
5. All core assays reported by Osisko were obtained by analytical methods described below under "Quality Control and Reporting Protocols".
6. Geological interpretation of the deposit is based on lithologies, mineralization style, alteration, and structural features. Most mineralization envelopes are subvertical, striking NE-SW and plunging approximately 40 degrees towards the North-East. The 3D wireframing was generated in Leapfrog Geo, a modelling software, from hand selections of mineralization intervals. The mineral resource estimate includes a total of 579 tabular, mostly sub-vertical domains defined by individual wireframes with a minimum true thickness of 2.0 m
7. Assays were composited within the mineralization domains into 2.0 m length composites. A value of 0.00125 g/t Au and 0.0025 g/t Ag (¼ of the detection limit) was applied to unassayed core intervals.
8. High-grade composites were capped. Capping was determined in each zone from statistical studies on groups of lenses sharing similar mineralization characteristics. Capping varies from 6 g/t Au to 200 g/t Au and from 5 g/t Ag to 150 g/t Ag. A three-pass capping strategy defined by capping values decreasing as interpolation search distances increase was used during grade estimation.
9. Block models were produced using Datamine™ Studio RM Software. The models are defined by parent cell sizes of 5 m EW, 2 m NS and 5 m height, and sub-blocked to minimum sub-cell sizes of 1.25 m EW, 0.5 m NS and 1.25 m height.
10. Ordinary Kriging (OK) based interpolations were produced for gold estimations in each zone of the Windfall deposit, while silver grade estimations were produced using Inverse Distance Squared (ID2) interpolations. Gold estimation parameters are based on composite variography analyses. The gold estimation parameters were used for the silver estimation.
11. Density values between 2.74 and 2.93 were applied to the mineralized lenses.
12. The Windfall mineral resource estimate is categorized as Measured, Indicated, and Inferred mineral resource as follows:
 - The Measured mineral resource category is manually defined and encloses areas where:
 - i. drill spacing is less than 12.5 m;
 - ii. blocks are mostly informed by four drill holes;
 - iii. geological evidence is sufficient to confirm geological and grade continuity;
 - iv. lenses have generally been accessed by underground workings.
 - The Indicated mineral resource category is manually defined and encloses areas where:
 - i. drill spacing is generally less than 25 m;
 - ii. blocks are informed by mostly three drill holes;
 - iii. geological evidence is sufficient to assume geological and grade continuity.
 - The Inferred mineral resource category is manually defined and encloses areas where:
 - i. drill spacing is less than 100 m;
 - ii. blocks are informed by a minimum of two drill holes;
 - iii. geological evidence is sufficient to imply, but not verify geological and grade continuity.
13. Tonnage and gold grade of the stockpiles were estimated using the grade control model. Densities by lithologies, ranging from 2.76 to 2.84, were used in the estimation of the tonnages. Gold grades were estimated using muck samples weighted average results for every round tonnage, based on muck samples with an average sample weight of 3.4 kg taken every 8-yard scoop bucket. Capping varying between 60 g/t Au to 80 g/t Au was applied on the muck gold grade results. Silver grade in the stockpiles was reported from the resource block model as silver was not analyzed in the muck samples.
14. The mineral resource is reported at 3.5 g/t Au cut-off. The cut-off grade is based on the following economic parameters: gold price at 1,600 USD/oz, exchange rate at 1.28 USD/CAD, 93.0% mill recovery; payability of 99.95%; selling cost at 5 USD/oz, 2% NSR royalties, mining cost at 125 CAD/t milled, G&A cost at 39 CAD/t milled, processing cost at 42 CAD/t, and environment cost at 4 CAD/t.
15. Estimates use metric units (metres (m), tonnes (t), and g/t). Metal contents are presented in troy ounces (metric tonne x grade / 31.103475).
16. The independent qualified person is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue, that could materially affect the mineral resource estimate.